

SECTION 06100  
ROUGH CARPENTRY

PART 1 GENERAL

1.1 SUMMARY

- A. Scope
  - 1. Provide rough carpentry items as shown, as specified or as required to support finished work.
  - 2. Use a minimum of 50% of wood-based materials and products which are certified in accordance with the Forest Stewardship Council's (FSC) Principles and Criteria for any wood building components to meet criteria of LEED NC 2.2.
- B. Related Work Specified Under Other Sections
  - 1. Formwork for concrete - Division 3.
  - 2. Finish Carpentry – Division 6.

1.2 QUALITY ASSURANCE

- A. Requirements For Preservative Treatment
  - 1. Preservative pressure treated lumber and plywood shall be clean and free of surface deposits.
  - 2. Each piece shall be indelibly ink stamped with the quality mark of an approved independent third party inspection agency having a follow-up testing and inspection service at the treating plant over the quality of the treated product, and whose service is certified by an approved overview agency such as American Wood Preservative Association (AWPA).
- B. Requirements Of Regulatory Agencies
  - 1. In addition to locations indicated or specified, provide fire retardant treated lumber and plywood in locations required by code, by governing authorities having jurisdiction, or by the Owner's Underwriters.

1.3 SUBMITTALS

- A. Furnish submittals for items that are identified in this Section by a different typeface and a bracketed code (e.g., *Item [L]*). Refer to Section 01340 for definition of codes for types of submittals and the administrative requirements governing submittal procedure. General submittal requirements pertaining to this Section are specified under this Article.
- B. *Treatment Certificates [C]*: Submit certificates for preservative and fire retardant treated lumber and plywood when requested by the governmental authority having jurisdiction. Certificate to be from an independent accredited testing agency having a re-examination inspection service at the treating plant.

## 1.4 PROJECT CONDITIONS

- A. Deliver and store lumber and plywood at the project site in a manner to minimize exposure to moisture migration.
- B. Exercise special care in storing, handling and installation of preservative and fire retardant treated lumber and plywood so as to prevent moisture absorption of such items.

## PART 2 PRODUCTS

### 2.1 WOOD MATERIALS

- A. General
  - 1. Each piece of lumber shall bear the official trademark and grade of the manufacturer's association or inspection bureau under which it was manufactured and graded. Lumber shall be seasoned, surfaced four sides and kiln or air dried to moisture content specified in the association's rules, except that moisture content shall not exceed 19 percent.
- B. Lumber Use And Species
  - 1. Furring, Grounds, and Similar Use: Western Wood Products Association (WWPA) "Standard", "Number 2 Common" or better Douglas Fir-Larch, Hem-Fir, Pine, Engelmann Spruce, Cedar; or Southern Pine Inspection Bureau (SPIB) Number 2 Southern Pine.
  - 2. Nailers, Blocking, Framing, Rough Bucks, and Rough Lumber Not Otherwise Specified: Western Wood Products Association (WWPA) "Utility", Number 3 or better Douglas Fir, Hem-Fir, Lodgepole Pine, Western Cedars; or Southern Pine Inspection Bureau (SPIB) Number 2KD Southern Pine.
  - 3. Sheathing: Western Wood Products Association (WWPA) "Number 4 Common" Douglas Fir-Larch, Hem-Fir, Pine, Engelmann Spruce or Cedar.
  - 4. Framing for Utility Shelving: "C Finish" boards, Southern Yellow Pine, Sugar Pine, Douglas Fir, Engelmann Spruce, or Western Red Cedar.
- C. Plywood Use And Species
  - 1. Sheathing: American Plywood Association (APA), PS 1-83 Product Standard, 32/16 Rated Sheathing, Exposure 1, of thickness noted.
  - 2. Exterior Plywood: American Plywood Association (APA), PS 1-83 Product Standard, BB Group 2 Exterior, of thickness noted.
  - 3. Utility Panels and Shelving: American Plywood Association (APA), PS 1-83 Product Standard, BD Interior, Exposure 1, Group 1, sanded, 3/4 inch thick unless otherwise noted.

### 2.2 FASTENING MATERIALS

- A. General: Use fastening materials of types appropriate for the conditions encountered, including wood to wood, wood to masonry or concrete, and wood to metal. Use anchors as shown for

securing blocking, nailers and framing. Threaded stud bolts and nuts, or powder actuated fasteners, shall be used for securing wood to structural framing.

- B. Threaded Studs: Threaded studs for securing wood nailers or other items noted, complete with nut and washer.
  - 1. Erico Products, Inc. "Blue Arc Shear Connector Studs", (440-248-0100).
  - 2. Midwest Fasteners, Inc., "Weld Studs", (800-852-8352).
- C. Powder Actuated Fasteners: Drive pin type, threaded, of length to penetrate the steel member and depth of wood member, and a washer of sufficient diameter to secure the wood member. Fasteners and low-velocity powder actuated tools by same manufacturer.
  - 1. Hilti, Inc.
  - 2. Ramset, Inc.
- D. Nails and Staples: Galvanized carbon steel, per Federal Specification FF-N-105B.
- E. Screws: Galvanized carbon steel per Federal Specification FF-S-107C and natural bright finish carbon steel per Federal Specification FF-S-111C.
- F. Bolts, Washers, Expansion Shields, and Nuts: Zinc-coated carbon steel, per Federal Specification FF-B-561C, FF-B-575C, FF-W-92A, FF-B-588C and FF-N-836D.
- G. Bar or Strap Anchors: ASTM A36 carbon steel 1/8 inch thick unless otherwise noted, hot dipped galvanized, with 2.0 ounce zinc coating per square foot of surface, per ASTM A123.

## 2.3 WOOD TREATMENTS

- A. Preservative Treatment
  - 1. *Preservative Treatment [C]*: Use preservative pressure treated wood nailers, blocking, rough bucks, furring, grounds and other rough lumber items that come in contact with concrete, masonry or metal and are inaccessible in the finished work. Preservative pressure treatment shall be in accordance with American Wood Preservers Association (AWPA) Standards P5, C1, C2 and C9. Each piece shall be stamped with indelible ink with American Wood Preservative Association (AWPA) Quality Mark. Perform all milling along the grain of the wood prior to preservative pressure treatment.
    - a. Hickson Corporation "Wolman-CCA".
    - b. Hoover Treated Wood Products "CCA".
    - c. Osmose Wood Preserving Company "Osmose CCA".
- B. Back Painting
  - 1. Primer-Sealer: Apply one coat in the shop, on back surfaces and edges of rough lumber items that are not treated as described above.
    - a. ICI Dulux "Ultra-Hide Alkyd Wood Undercoater".
    - b. PPG Industries, Inc. "Speedhide 6-6 Interior Undercoater".
    - c. Benjamin Moore "Alkyd Enamel Underbody 217".
    - d. Sherwin-Williams "Promar 200".

## PART 3 EXECUTION

### 3.1 PREPARATION

- A. Provide rough hardware required to complete this Work, including attachments of wood to wood, wood to masonry or concrete and wood to metal. Counterbore holes for nuts and heads of fasteners, and countersink all screws so as to be flush. Drill holes in lumber for fasteners. Furnish rough hardware items, loose, that are scheduled to be pre-set in masonry or concrete, to expedite the installation of such Work.
  - 1. In pressure treated wood, drill undersize holes for screws and nails to prevent splitting of wood members.
- B. For back painted members, after any such members are cut in the field, apply a brush coat of the same material used in the shop, to reseal the surface.
- C. When preservative pressure treated lumber is cut across the grain in the field, apply preservative to cut end in accordance with American Wood Preservers Association (AWPA) Standard M4 Section 1.5.
- D. Field cutting (ripping) along the grain is not allowed for either fire retardant or preservative pressure treated lumber.

### 3.2 FURRING AND GROUNDS

- A. Provide wood furring and grounds required to install wood sheathing, gypsum wall board, gypsum and metal lath, and wood paneling to masonry or concrete. Install in parallel rows, spaced at 16 inches on center; and in addition, to frame the perimeters of such areas and corners. Use nominal 1 inch by 3 inch solid stock unless otherwise noted. At metal lath, provide beveled edge to develop good plaster keys.
- B. Provide wood furring required to install cabinet work and other finish items to masonry, concrete, gypsum wall board or plaster substrates to properly secure these items.
- C. Secure members rigidly in place, at 2 feet on center, maximum, using flush bolts. Where members are applied over stud partition framing, bolt members in place through the substrate and into the metal stud framing.

### 3.3 NAILERS, BLOCKING, FRAMING AND ROUGH BUCKS

- A. Provide nailers, blocking, framing, rough bucks, sheathing and other rough lumber necessary for a complete installation.
- B. Anchor wood members to concrete, masonry, or steel as shown, or required, complete with the fasteners specified. If powder actuated fasteners are used, comply with safety requirement of OSHA and fastener manufacturer. Where size and spacing are not shown or noted, secure members with 1/2 inch diameter bolts or threaded studs; not less than two for each individual piece; and at not more than 24 inches on center, maximum, for continuous members. Provide

washers under bolt heads and nuts. Provide nailers and blocking in long lengths to minimize joints. When joints are necessary, join pieces without projecting edges.

- C. Lay sheathing close and nail solidly at each bearing; at not over 6 inches on center at continuous bearing members. Stagger end joints of adjacent sheets, with joint over bearings, in all cases.

### 3.4 UTILITY PANELS AND SHELVING

- A. Provide utility panels in telephone equipment rooms, electrical equipment rooms and elsewhere as required for mounting of equipment. Neatly install panels, with close butted joints where more than one sheet is required. Expansion bolt the panels to concrete or masonry substrates. At metal stud partitions, bolt panels in place through the substrate and into the metal stud framing. Unless otherwise noted, provide full 8 foot high panels.
- B. Provide wood utility shelving in janitors closets, and equipment rooms. Install 1 inch x 3 inch framing to support shelving on ends and at back. Provide plywood shelving, with solid wood nosing on exposed edge; use single piece shelves in each location. Unless otherwise noted, install 5 shelves at each indication for shelving.

### 3.5 TEMPORARY ROOF CURB COVERS

- A. Provide temporary plywood covers, complete with wood support blocking as necessary, over roof curbs until permanent equipment is installed on the curbs. Use minimum 3/4 inch thick exterior grade plywood.

END OF SECTION

Revision History	
Date	Rev. No.
A	0
B	0
C	0
D	0
E	0
F	0
02-19-09	0

DS/djo [AR,ST]

C:\D\TIMSDATASF\BROOKHAVEN\_NATIONAL\_LABORATORY\SF070003\200-PROJEXEC\280-SPEC\06100.DOC

THIS PAGE INTENTIONALLY LEFT BLANK